

AMSAT News Service Weekly Bulletins

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AMSAT NEWS SERVICE

ANS-354

ANS is a free, weekly, news and information service of AMSAT North America, The Radio Amateur Satellite Corporation. ANS reports on the activities of a worldwide group of Amateur Radio operators who share an active interest in designing, building, launching and communicating through analog and digital Amateur Radio satellites.

Please send any amateur satellite news or reports to:
ans-editor@amsat.org

In this edition:

- * AMSAT China's XW-1 Satellite Testing Proceeding Well
- * AO-51 Schedule to Support SKN
- * January 2010 AMSAT Kid's Day on AO-51
- * Students and Teachers Invited to Fly a File on ARISSAT-1
- * NASA Revised EVA Schedule Affects ARISSat
- * Satellite Shorts From All Over
- * ESA and CNES to Fly Atomic Clock to ISS Columbus Module

SB SAT @ AMSAT \$ANS-354.01

AMSAT China's XW-1 Satellite Testing Proceeding Well

AMSAT News Service Bulletin 354.01

>From AMSAT HQ SILVER SPRING, MD.

December 20, 2009

To All RADIO AMATEURS

BID: \$ANS-354.01

Amateur satellite operators worldwide have reported receiving strong signals on the telemetry beacon of China's XW-1 satellite launched on December 15, 2009.

The satellite is currently being commissioned but all three amateur radio modes, which include an V/U FM repeater, V/U linear transponder, and V/U AFSK packet, have been tested.

Michael Chen, BD5RV/4 reported, "I managed to operate the special event station BT3WX to work several E2, BY, VR2, XX9 throughout an evening pass of XW-1 using the FM transponder. It was the first open test of this bird's transponder. Everything works just great!"

AFSK packets were active over Japan with JA0CAW receiving the down-link on 435.675 MHz AFSK 1200bps.

JE1CVL, JH1EKH, BD4SY, JF2CTY, JH1BCL, JA5BLZ succeeded in a QSO over Japan using the linear transponder in 'VHF(LSB) up and UHF (USB) Linear Transponder Inverting on 145.950 MHz (Up) and 435.740 MHz (Down).

The XW-1 communications payload includes a beacon and three cross band transponders operating in FM, linear, and digital modes.

Uplinks: 145.8250 MHz FM, PL 67.0 Hz.
145.9250 - 145.9750 MHz SSB/CW
145.8250 MHz AFSK 1200 BPS

Downlinks: 435.6750 MHz FM
435.7650 - 435.7150 MHz SSB/CW
435.6750 MHz AFSK 1200 BPS

Beacon: 435.7900 MHz CW

Users have posted videos on YouTube regarding XW-1:
<http://www.youtube.com/watch?v=n4-0yuC4Sx4&feature=related>
<http://www.youtube.com/watch?v=WwyTZT6JkC4>

Luciano Fabricio PY5LF has made a YouTube video showing his reception of the beacon: <http://tinyurl.com/yjgett6>

XW-1 was a secondary payload aboard the CZ-4C rocket from Taiyuan Satellite Launch Center into a sun-synchronous orbit about 1200 kilometers high. The primary payload of this launch is the Yaogen-8 Remote Sensing Satellite.

BD5RV/4 requests amateur radio operators send him audio recordings, notes on received content, your QTH, callsign, date/time of the XW-1 beacon you heard to AMSAT China by email. Later, you'll be able to upload it via web, but for now, email works. Send your files and information to michael.bd5rv@gmail.com.

XW-1 CW Telemetry Decoder by Mike Rupprecht, DK3WN can be downloaded from his web site at: <http://www.dk3wn.info/software.shtml>

You can get an updated copy of the XW-1 Telemetry Format at:
http://www.camsat.cn/index.php?option=com_phocadownload&view=category&id=1:xw-1&download=1:xw-1-telemetry&Itemid=66 (careful - line wrap)

The XW-1 Store-forward Transponder User's Manual can be found on the AMSAT web at: http://www.amsat.org/amsat-new/satellites/documents/XW-1_Store-forward_Transponder_Users_Manual.pdf (careful - line wrap)

Details of the XW-1 satellite are available at:
http://www.camsat.cn/index.php?option=com_content&view=article&id=56&Itemid=67 (careful - line wrap)

[ANS thanks Michael Chen BD5RV/4 and Alan Kung, BA1DU for the above information]

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SB SAT @ AMSAT \$ANS-354.02
A0-51 Schedule to Support SKN

AMSAT News Service Bulletin 354.02
>From AMSAT HQ SILVER SPRING, MD.
December 20, 2009
To All RADIO AMATEURS
BID: \$ANS-354.02

The AMSAT A0-51 Operations Group reminds everyone that A0-51 will be configured to support CW operations during the annual Straight Key Night event. Participants may operate CW through A0-51 between 0000 and 2400 UTC on 1 January 2010, using a straight hand key.

A0-51 will be configured in the following mode during the event:
SSB/FM Repeater, V/U (CW QSOs only on Straight Key Night)
Uplink: 145.880 MHz USB

Downlink: 435.150 MHz FM

And don't forget to nominate someone you work for "Best Fist". Please send your nomination to w2rs@amsat.org. A list of those nominated will appear in ANS and the AMSAT Journal.

Have fun and enjoy A0-51!

[ANS thanks the AMSAT A0-51 Operations Group and Ray, W2RS for the above information]

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SB SAT @ AMSAT \$ANS-354.03
January 2010 AMSAT Kid's Day on A0-51

AMSAT News Service Bulletin 354.03
>From AMSAT HQ SILVER SPRING, MD.
December 20, 2009
To All RADIO AMATEURS
BID: \$ANS-354.03

AMSAT-NA and the A0-51 Operations Group will sponsor Kid's Day on A0-51 on January 3, 2010. The event is open to all kids, worldwide.

We ask all amateur radio stations to give this short time window to promote satellite operations with kids, by actually showing a kid how to make contacts via A0-51, providing a station to contact, or stepping aside to allow others to make contacts with the kids. During the event, please limit contacts to stations that are operating with kids at the microphone. This should allow the kids to have a nice QSO and pass some information. Kids can tell their name, age, who is helping them operate on A0-51, where they live, and other information about themselves.

A0-51 will be configured in the following mode during the event.
Uplink: 145.880 MHz FM voice
Downlink: 435.300 MHz FM voice

See <http://www.arrl.org/FandES/ead/kd-rules.html> on the ARRL website for more Kids Day information.

Have fun and enjoy A0-51!

[ANS thanks the A0-51 Operations Committee for the above information]

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SB SAT @ AMSAT \$ANS-354.04
Students and Teachers Invited to Fly a File on ARISSAT-1

AMSAT News Service Bulletin 354.04
>From AMSAT HQ SILVER SPRING, MD.
December 20, 2009
To All RADIO AMATEURS
BID: \$ANS-354.04

On 3 February 2006, cosmonaut Valery Ivanovich Tokarev hand launched the Amateur Radio satellite SuitSat-1 from the ISS during an EVA (Extra Vehicular Activity = Spacewalk).

SuitSat-1 was a very special Amateur Radio satellite. A discarded Russian ORLAN Space Suit (in Russian a "Skafander") was equipped with

an Amateur Radio transmitter, which transmitted telemetry and greetings from youngsters to the youth of the world in several languages.

In 2010, an Amateur Radio satellite will once more be hand launched from the International Space Station. It will be called ARISSat-1.

ARISSat-1 will again transmit messages recorded by students. Moreover, teachers and students are invited to fly a file aboard this amateur radio satellite.

The ARISSat-1 Team wishes to include on our new satellite a memory stick of files prepared by students. This should be a jpg or pdf of things the student has prepared such as a paper or a study done on a STEM (science, technology, engineering, math) topic, a drawing of space craft or a schematic, a journal kept on a STEM topic, a story or news article about a STEM subject, a photo of the class doing a hands-on STEM activity -- that type of thing.

Having the student's work be a part of ARISSat-1 means the student is a part of the satellite project and along for the spacewalk and deployment of ARISSat-1.

Readers of this Bulletin are invited to approach teachers and students and draw their attention on this opportunity to participate directly to a space flight for the honor of being part of space activities.

Dave Jordan, AA4KN, will take delivery of these files and copy them onto a memory stick. The quantity of files and the size of a file are unlimited since memory sticks provide for a very large amount of file space.

Files should be either .JPG or .PDF -- no Word documents, please. Please send files to Dave Jordan's address -- <aa4kn@amsat.org> He will look at all of them for content appropriate to students.

Files can be in any language as long as an English translation is also included as a text file.

If the file contains sound recordings and/or photos or names of persons, a "Talent Authorisation and Release" is requested. The appropriate document can be downloaded from http://www.rac.ca/ariss/Talent_Release.htm

The permission slip has to be signed by the student or his/her guardian if the student is a minor.

The signed release form is to be mailed to:
AMSAT
Martha Saragovitz
850 Sligo Ave. Suite 600
Silver Spring, MD 20910

Deadline for submitting files: March 1st, 2010.

[ANS thanks the ARISS Team for the above information]

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SB SAT @ AMSAT \$ANS-354.05
NASA Revised EVA Schedule Affects ARISSat

AMSAT News Service Bulletin 354.05
>From AMSAT HQ SILVER SPRING, MD.
December 20, 2009
To All RADIO AMATEURS
BID: \$ANS-354.05

NASA has informed AMSAT that the schedule of work for EVAs at the International Space Station is being revised. The planned deployment of ARISSat-1 from the ISS is now being scheduled for either Fall 2010 or early 2011 rather than Spring 2010.

This schedule adjustment also impacts when ARISSat-1 will be flown to the Space Station with upload likely to take place sometime in Summer 2010 rather than in January.

These revisions were made in response to new higher priority work that must be done during the timeframe of the EVA that ARISSat-1 was originally scheduled in April 2010.

Overall, this revision helps ARISSat-1 because it provides additional time for testing of the spacecraft. Furthermore, it also ensures that the NASA Safety Review process for ARISSat-1 can be concluded prior to shipment of the spacecraft to Russia.

The major items to complete for ARISSat are the IHU software, PSU software, PSU testing and system testing. The structure is coming together well and the team looks forward to providing an innovative and reliable satellite this coming spring.

[ANS thanks Gould, WA4SXM for the above information]

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SB SAT @ AMSAT \$ANS-354.06
Satellite Shorts From All Over

AMSAT News Service Bulletin 354.06
>From AMSAT HQ SILVER SPRING, MD.
December 20, 2009
To All RADIO AMATEURS
BID: \$ANS-354.06

- + SSTV pictures received during the Moscow Aviation Institute Experiment aboard the ISS on December 9 can be viewed in the ARISS SSTV Gallery at: <http://www.amsat.org/amsat/ariss/SSTV/>
- + Congratulations to Jean-Marie, F2IL for 10,000 contacts via AO-7. (Via Zeljko, 9A2EY)
- + On December 7 Juan Antonio, EA4CYQ had a contact with Piraja PS8RF in Brazil via AO-7 Mode B. Signals were reported to sound clear without any noise or distortion over the Atlantic Ocean.
- + AMSAT Area Coordinator for the Washington, D.C. - Maryland Areas, Pat Kilroy, N8PK will kick off the planning for the next AMSAT-DC gathering with a teleconference call on Thursday, January 7, 2010, at 7:00 P.M. Eastern Standard Time. Please RSVP for the telecon directly to Patrick.L.Kilroy@nasa.gov, and he will forward the meeting information to you.
- + A YouTube video showing how to make a V0-52 contact can be viewed at: <http://tinyurl.com/ydpc6ru>

[ANS thanks everyone for the above information]

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SB SAT @ AMSAT \$ANS-354.07

ESA and CNES to Fly Atomic Clock to ISS Columbus Module

AMSAT News Service Bulletin 354.07

>From AMSAT HQ SILVER SPRING, MD.

December 20, 2009

To All RADIO AMATEURS

BID: \$ANS-354.07

The French space agency (CNES) and ESA have signed an agreement that paves the way for the launch of a high-accuracy atomic clock to be attached to the outside of the European Columbus laboratory onboard the International Space Station (ISS).

The PHARAO (Projet d'Horloge Atomique par Refroidissement d'Atomes en Orbite) atomic clock, which will be combined with another atomic clock, the Space Hydrogen Maser (SHM), to form ESA's Atomic Clock Ensemble in Space (ACES), will have an accuracy of 1×10^{-16} , corresponding to a time error of about one second over 300 million years.

This new generation of atomic clocks in space will be instrumental in enabling accurate testing of Einstein's theory of general relativity. In addition, it will contribute to the accuracy and long-term stability of global timescales, such as Coordinated Universal Time (UTC). A dedicated microwave link will send the timing signal to the ground.

The atomic clock is designed for launch in the unpressurised cargo bay of the Japanese H-II Transfer Vehicle (HTV) or commercial SpaceX carrier in the second half of 2013. Once in orbit, it will be attached to Columbus' Earth-facing external payload platform using the Station Robotic Arm.

(Via SpaceDaily.com, see http://www.spacedaily.com/reports/PHARAO_Atomic_Clock_Agreement_Signed_By_ESA_And_CNES_999.html for full story.)

[ANS thanks SpaceDaily.com for the above information]

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In addition to regular membership, AMSAT offers membership in the President's Club. Members of the President's Club, as sustaining donors to AMSAT Project Funds, will be eligible to receive additional benefits. Application forms are available from the AMSAT Office. And with that please keep in mind that Santa's elves are actually subordinate Clauses.

73,
This week's ANS Editor,
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